

Establishing Global Leadership in IP

- 46 Fifth in the Global Innovation Index by WIPO
- 47 First in the IP Innovation Ranking by the WTR
- 48 Fourth Largest in the Number of PCT Applications
- 49 Leading International IP Standards Related to AI



Peace Square of Seoul Olympic Park
Olympic Park was created to commemorate the 1988 Seoul Olympics. The Seoul Olympics is a historic event that signaled the end of the Cold War, as well as an opportunity for Korea to emerge as an advanced country.

Fifth in the Global Innovation Index by WIPO

Trade and Cooperation Division

With the annual launch of the Global Innovation Index (GII) by WIPO on September 20, 2021, the ROK was revealed to rank as the 5th most innovative economy among 132 economies worldwide and 1st among Asia.

While Switzerland (1st), Sweden (2nd), the US (3rd), and the UK (4th) stayed in the top 4, the ROK rose from 10th in 2020 to have the most improved innovative capabilities among the top 20 countries. Despite difficult domestic and international circumstances, such achievement was possible by continuing to carry out activities that lead to innovation and creation of IP and other intangible assets.

More specifically, the GI is a global innovation ranking conducted by WIPO which uses seven pillars to measure innovation, including *five input and two output sub-indexes. The ROK has

continued to be No.1 in the sub-index of Human Capital and Research for three consecutive years which is a measure of investment in innovation. Also, the ROK's ranking in the two output sub-indexes which measure the performance of innovative activities advanced to 5th from 10th of the previous year due to the increase in domestic and international patent applications.

Furthermore, among the total 81 indicators within the pillars, the ROK ranked No.1 in nine indicators: Patent Applications per GDP, PCT Applications per GDP, Patent Families per GDP, Design Applications per GDP, Researchers per Population, Percentage of Research Talent in Business, Government's Online Services, E-participation (government's use of online services), and the Percentage of High-tech Exports.

*Input Sub-index: Institution, Human Capital and Research, Infrastructure, Business Sophistication, Market Sophistication
Output Sub-index: Knowledge and Technology Output, Creative Output

First in the IP Innovation Ranking by the WTR

International Cooperation Division

In 2021, the World Trademark Review (WTR) jointly ranked KIPO and the European Union Intellectual Property Office (EUIPO) as 1st in the IP Innovation Ranking 2021. The WTR is a news and research outlet specializing in worldwide issues related to Trademark which ranks 60 major IP offices.

Over the past few years, KIPO has been consistently rising to the top after ranking 6th in 2019 and 3rd in 2020. For the first time, KIPO eventually reached 1st in 2021 with its continued commitment to innovation, such as introducing the world's first mobile trademark e-filing system. The IP Innovation Ranking uses 16 metrics concerning three areas: online service capabilities, value-added propositions, and

public outreach efforts. Overall, KIPO placed 1st in the area of online metrics (6th in 2020) through its website functionality and accessibility, Trademark e-filing service offerings, and AI-based search system and also dramatically jumped to 1st place (23rd in 2020) for its public outreach efforts, such as holding briefing sessions about the trademark system and social networking services for applicants.

In particular, KIPO utilized AI to develop a trademark image search system to provide efficient and accurate examination and continuously improved the functions of e-filing system which has led to 98% of all trademark applications to be filed electronically in 2021. Like this, KIPO has worked tirelessly to improve the quality of the trademark system.



Fourth Largest in the Number of PCT Applications

Trade and Cooperation Division

KIPO announced that the ROK is the country with the 4th largest number of applications filed to WIPO under the Patent Cooperation Treaty (PCT) in 2021 for the second consecutive year. The number of PCT applications is regarded as an important indicator of a country's capacity for innovation, used in both the Bloomberg Innovation Index and WIPO Global Innovation Index.

The ROK showed a 3.2% increase in PCT applications filed in 2021, which is the highest growth rate among the top five countries including China, the United States, Japan, and Germany. Two Korean companies, in particular, Samsung Electronics (3rd) and LG Electronics (4th), were among the top 10 companies with the largest number of PCT applications.

There was also a remarkable increase in the number of trademark applications filed under the Madrid protocol by Korean companies. In 2021, Korean applicants including companies filed the 11th highest number of the Madrid applications with a total of 1,973 applications. The growth rate for Madrid application filings increased 24% in 2021 which is significantly higher than the global rate of 14.4%.

The demand for global IP services is dramatically increasing in the ROK. Therefore, KIPO is continuously working to establish a local WIPO external office so that users in the ROK are provided with accessible and timely services regarding WIPO's international application services.

Leading International IP Standards Related to AI

Trade and Cooperation Division, International Cooperation Division, International Training Division

A forum of the world's five largest intellectual property offices (IP5) agreed on a joint statement to authorize a cooperative roadmap of new emerging technology (NET) and technologies related to the Fourth Industrial Revolution (e.g. AI, big data, blockchain, etc.) to preemptively respond to the rapid development of digital technologies such as AI and provide efficient patent examination services.

Two years after KIPO and the EUIPO jointly established a "IP5 NET/AI Taskforce" to lead discussions in 2019, the IP5 agreed to create the "NET/AI New Emerging Technology Roadmap."

The IP5 NET/ AI Roadmap identifies four key areas of co-operation: Statistics, Classification, IT aspects/utilization of NET/ AI, and Legal. The Roadmap is intended to serve as a blueprint for joint endeavors of the IP5 Offices to harness NET/AI capabilities in support of their patent grant processes and to provide transparency in their patent practices and predictability of patent prosecution for users.

Meanwhile, KIPO participated in WIPO's first special session on IP and AI in 2019. Afterwards, WIPO has actively pursued international discussion and formation of norms related to IP of frontier technology by collecting the opinions of WIPO member states and stakeholders through conversations.

In that regard, KIPO actively shared relevant experiences and presented on AI and trademarks as well as the need to resolve technical discrepancies between advanced and developing countries in new emerging technologies at the 3rd Policy Conference held in 2020. For the 4th Policy Conference, KIPO presented on the ROK's data protection measures under the *Unfair Competition Prevention Act*.

In addition, KIPO newly established an international AI-related IP training course "Workshop on AI & IP" in December 2021 through joint effort with WIPO. The workshop will help share KIPO's AI policies and examination know-how to various countries, especially developing countries.

